

BOROUGH OF



SOUTHPORT.

❖ REPORT ❖

UPON THE

MORTALITY AND SICKNESS

OF THE

URBAN SANITARY DISTRICT

OF

THE BOROUGH OF SOUTHPORT,

FOR

THE YEAR 1897.

BY

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TO THE CHAIRMAN AND MEMBERS
OF THE
HEALTH COMMITTEE OF THE CORPORATION OF SOUTHPORT.

GENTLEMEN,

The estimated population of the Borough of Southport at the middle of the year 1897, based upon the annual rate of increase of the said population during the intercensal period 1881-91, was 48,445.

The record of houses built and certified during 1897 rather tends to show that the increase of population has been more rapid in 1897 than during the last intercensal period.

Thus, the number of souls per inhabited house in Southport at the census of 1891 was 5·4871, and, 341 houses having been added during the past year to the number of houses in the Borough, the population might be computed to have increased by $341 \times 5\cdot4871 = 1871$.

I have, however, confined myself in this report to the more sober estimate of the intercensal rate of increase, which adds 1202 souls to our population, and the birth and death rates will be calculated upon this basis, which is the usual one.

It is safer to under than to over-estimate our population, especially as this town is a competitor with others for public favour, and might be charged, unless moderate and cautious in this particular, with putting a better face on matters than the facts justify. Inflated estimates of population give fictitiously low death-rates, and tend to create undue local self-satisfaction and arrest progress.

Moreover, there is no urgent necessity to grow, or appear to grow, very rapidly. What is material is that whatever growth there may be shall be well organised and well provided for.

As far as can be ascertained, the number of new houses built and certified during the last four years has been :—

TABLE I.

1894	.....	261
1895	.....	310
1896	.....	361
1897	.....	352

or a total of 1284 in four years.

It is curious to note how nearly the results of an estimate of the population derived from the intercensal rate of increase, and an estimate, based upon the number of souls per inhabited house, approximate, thus:—

Population (1897), based upon intercensal rate of increase..... = 48,445

Population (1897), based upon souls per inhabited house— 8.849×5.4871 = 48,555

As there is no reason for supposing the sex distribution to have varied from that of the last census, the population of the Borough may be divided into :—

Males	.....	19,830
Females	.....	28,615

The population and sex distribution in each Ward, observing the proportions in former years, shows as follows :—

TABLE II.

	Males.		Females.		Persons.
Hesketh Ward	1284	.....	1364	.....	2648
Scarisbrick Ward	2353	.....	2394	.....	4747
East Ward.....	2296	.....	4516	.....	6812
Talbot Ward	5688	.....	8667	.....	14355
Craven Ward.....	4441	.....	6577	.....	11018
West Ward	3768	.....	5097	.....	8865
	<hr/>		<hr/>		<hr/>
	19830		28615		48445

Probably the rate of building in the several Wards has been somewhat different, so that these figures are now to be taken as approximate estimates only.

The proportion of males to females in each Ward remains, as far as is known, as before ; indeed, there is no reason at all to suppose that it has varied. I place it on record again on account of its obvious bearing upon birth rates :—

TABLE III.

Hesketh Ward	.....	100 males to 106 females
Scarisbrick Ward	.....	„ 102 „
East Ward	.....	„ 196 „
Talbot Ward	.....	„ 152 „
Craven Ward	.....	„ 148 „
West Ward	.....	„ 135 „

The age and sex distribution of the population is set forth in the following table :—

TABLE IV.

POPULATION OF SOUTHPORT, AT TWELVE AGE GROUPS, MALE AND FEMALE, IN 1897.

Group.	Ages.	Males.	Females	Persons.
1	Under 5	2316	2340	4656
2	5—10	2390	2268	4658
3	10—15	2304	2538	4842
4	15—20	1871	3232	5103
5	20—25	1710	3332	5042
6	25—35	2886	4899	7785
7	35—45	2395	3483	5878
8	45—55	1750	2807	4557
9	55—65	1214	2078	3292
10	65—75	753	1196	1949
11	75—85	282	391	613
12	85 & up.	19	51	70
		19,830	28,615	48,445

This grouping is very peculiar, especially when studied in connection with the following table, which compares the age grouping of the population of Southport with that of the country at large :—

TABLE V.

Number of persons at 12 age groups in Southport in 1897, compared with an equal number in England and Wales, grouped according to the national pattern :—

Ages.		Southport.		England and Wales.
Under 5	.....	4656	.....	5935
5—10	.....	4658	.....	5660
10—15	.....	4842	.....	5384
15—20	.....	5103	.....	4928
20—25	.....	5042	.....	4421
25—35	.....	7785	.....	7312
35—45	.....	5878	.....	5561
45—55	.....	4557	.....	4172
55—65	.....	3292	.....	2768
65—75	.....	1949	.....	1665
75—85	.....	613	.....	566
85 & up.	.....	70	.....	73

There is a deficiency of 2823 children under the age of 15 in Southport, as compared with a population of the same number of the national age grouping, and, of course, an identical excess as regards all persons above 15. Inspection of the above table shows unmistakeably that the increase of our population is mainly due to immigration. The proportion of the age groups to one another is utterly inconsistent with any rate of natural increase only whatever; natural increase meaning the excess of births over deaths.

The following table, however, sets out the abnormal age grouping of Southport, as compared with the normal or national pattern, better than any other method :—

TABLE VI.

THE PROPORTIONATE NUMBER OF MALES, FEMALES, AND PERSONS PER 1000 PERSONS AT
TWELVE AGE GROUPS IN SOUTHPORT AND ENGLAND AND WALES RESPECTIVELY:—

Ages.	MALES.		FEMALES.		TOTAL.	
	Southport.	Eng. and W.	Southport.	Eng. and W.	Southport.	Eng. and W.
Under 5	47·747	60·945	48·278	61·575	96·025	122·52
5—10.....	49·389	58·388	46,804	58·672	96·193	117·06
10—15.....	47·433	55·542	52·312	55·598	99·745	111·14
15—20.....	38·691	50·519	66·657	51·221	105·348	101·74
20—25.....	35·357	43·008	68·711	48·242	104·068	91·25
25—35.....	59·629	72·203	101·048	78·747	160·677	150·95
35—45.....	49·462	55·549	71·849	59·231	121·311	114·78
45—55.....	36·202	41·092	57·914	45·008	94·116	86·10
55—65.....	25·093	26·553	43·399	30·577	68·492	57·13
65—75.....	15·553	15·340	24·562	18·790	40·115	34·13
75—85.....	4·372	5·016	8·114	6·674	12·486	11·69
85 & up.	·362	·559	1·062	·951	1·424	1·51
	409·290	484·714	590·710	515·286	1000·000	1000·00
	590·710	515·286				
	1000·000	1000·000				

The most striking educts of this table are:—

1. That children under 15 years of age are in each 1000 of population in Southport deficient in number, as compared with 1000 of the whole English population, to the extent of 58·757 per 1000.

2. That persons over 15 years of age in Southport are in a similar, or rather identical, excess per 1000 of population, as compared with the normal English proportions.

3. That males in Southport under 15 years of age are to females of the same age in Southport as 100 to 101·95.

4. That males in Southport over 15 years of age are to females of the same age in Southport as 100 to 167·5.

5. That the proportion of males to females in Southport is as 100 to 144.

6. That the proportion of males to females in England and Wales is as 100 to 119.

7. That the proportion of males in any given number of population in Southport to males in the same number in England and Wales is as 100 to 118·4; and

8. That the proportion of females in any given number of population in Southport to females in the same number in England and Wales is as 100 to 87·2; and

9. That between the ages of 15 and 45 there are 100 males to 107 females in England and Wales, and 100 males to 168 females in Southport—a disproportion which connotes many inconveniences, not to say dangers.

The births in the Borough during 1897 were : males 507, and females 496, making a total of 1003, as against 1036 in 1896. The ratio of male children born to females was 102·6 of the former to 100 of the latter. This is below the local average of 104·06 to 100. The natural increase of population—*i.e.*, the excess of births over deaths—was 201. The total estimated increase of population over that of 1896 is 1202, so that the estimate of increase by immigration is 1001. The resulting birth rate is 20·70 per 1000 per annum, which is 1·23 lower than the birth rate for 1896.

The births were distributed in the various Wards as follows:—

TABLE VII.

	Males.		Females.		Total.
Hesketh Ward.....	43	.....	44	.....	87
Scarisbrick Ward ...	111	.....	110	.....	221
East Ward	19	.....	20	.....	39
Talbot Ward	154	.....	142	.....	296
Craven Ward	87	.....	80	.....	167
West Ward	93	.....	100	.....	193
	<hr/>		<hr/>		<hr/>
	507		496		1003

The birth rates in each Ward and in the Borough, in 1897, were:—

TABLE VIII.

Hesketh Ward	32·85	per 1000	per annum
Scarisbrick Ward	46·56	„	„
East Ward	5·73	„	„
Talbot Ward	20·62	„	„
Craven Ward	15·16	„	„
West Ward	21·77	„	„
Rural Wards	41·65	„	„
Urban Wards	15·83	„	„
Borough	20·70	„	„

The key to these contrasts in birth rates is, of course, to be found in the sex distribution of the different Wards. In the Rural Wards, where there are 100 males to 103·3 females, the birth rate is 41·65. In East Ward, where there are only 100 males to 196·7 females, the birth rate is 5·73.

The continuance of high birth rates in the Rural Wards is satisfactory, as indicating abundance of the means of subsistence. The birth rate in England and Wales, in 1897, is only 29·7, as against 41·65 in our Rural Wards.

The deaths registered within the Borough, in 1897, were 381 of males and 421 of females, making a total of 802 for the year. The resulting gross death rate from all causes is 16·55 per 1000. The customary and allowable additions and deductions will give a somewhat different figure, which will appear further on.

The deaths were distributed in Wards as follows:—

TABLE 1X.

	Males.		Females.		Persons.
Hesketh Ward	30	.....	28	.....	58
Scarisbrick Ward	56	.....	63	.....	119
East Ward.....	31	.....	43	.....	74
Talbot Ward	108	.....	124	.....	232
Craven Ward.....	98	.....	100	.....	198
West Ward	58	.....	63	.....	121

The death rates in Wards, in 1897, were:—

TABLE X.

	Males.		Females.		Persons.
Hesketh Ward	23·36	.....	20·53	.....	21·90
Scarisbrick Ward	23·80	.....	26·32	.....	25·07
East Ward	13·50	.....	9·52	.....	10·86
Talbot Ward	18·99	.. ..	14·31	.....	16·16
Craven Ward	22·07	.....	15·20	.....	17·97
West Ward	15·39	.....	12·36	.....	13·65
The Two Rural Wards.....	23·65	.....	24·22	.....	23·94
The Four Urban Wards ...	18·22	.....	13·28	.....	15·23
The Borough	19·21	.....	14·71	.....	16·55

The excess of the Rural Wards death rate over that of the Urban Wards is most unsatisfactory. The excess was in

TABLE XI.

1895	1·35 per 1000
1896	3·56 „
1897	8·71 „

Part of this excess is, doubtless, the result of class habits, of which the injudicious feeding of infants and young children is, perhaps, the most potent, and part is, I am persuaded, the work of the midden-privy fiend. It is a grievous disappointment to me to find that there are no lawful means of putting down these filthy nuisances other than the wretched system of attacking them one by one as nuisances. I shall recur to this subject.

The excess of the male death rate is 4·5 per 1000 over the female rate. “Habits,” probably, have a good deal to say to this, whether acquired before taking up residence here or persevered in since.

The Annual Epitome of Vital Statistics follows. “Local death rate” means the death rate obtained by deducting the “bad lives imported”—otherwise deaths of “moribund visitors”—from the total deaths registered within the Borough:—

TABLE XII.

Vital Statistics, 1897.

ESTIMATED POPULATION, MIDDLE OF 1897 - - - - - 48,445.

BIRTHS.			DEATHS.					Deaths in Public Institutions
Male.	Female.		Male.	Female.	Resident more than 1 year.	Resident less than 1 year.	Bad Lives Imported.	
507	496		381	421	669	133	101	

DEATHS FROM									
Seven Zymotic Diseases.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus, Enteric, and Simple Fever.	Diarrhœa.	Choleraic Diarrhœa.	Diseases of the Respiratory Organs.
54	—	4	5	5	14	2	22	2	114
								81	17
									50

DEATHS OF PERSONS AGED					ANNUAL RATE PER 1000 LIVING.		
0—1 year.	1—5 years.	5—15 years.	15—25 years.	25—60 years	60 years and upwards.	Births.	Deaths.
182	70	24	38	231	257	20·70	Gross ... 16·55 Local ... 14·47 Zymotic 1·11
							Last Year. 14·46 12·57 ·95
							Diseases of Respiratory Organs, excluding Phthisis. 2·35

The moribund visitors died of the following diseases in 1897:—

TABLE XIII.

Measles	1
Phthisis	19
Respiratory Diseases	9
Diabetes	1
Cancer	8
Diseases of the Kidney	8
Diseases of the Heart and Great Blood-vessels.....	12
Diseases of the Brain and Spinal Cord	10
Diseases of the Liver.....	3
Violence	1
Peritonitis	1
Old Age	4
Hæmatemesis	2
Strangulated Hernia	2
Peripheral Neuritis.....	2
Tubercular Laryngitis	1
Influenza	1
All other diseases	16
<hr/>	
Total.....	101

The ages at which moribund visitors died, in 1897, were as follows:—

TABLE XIV.

Ages.	Male.		Female.		Persons.
Under 5	7	.....	3	.....	10
5—10	0	.....	1	.....	1
10—15	0	.....	1	.....	1
15—20	2	.....	2	.....	4
20—25	4	.....	2	.....	6
25—35	7	.....	3	.....	10
35—45	4	.....	6	.....	10
45—55	15	.....	6	.....	21
55—65	8	.....	9	.....	17
65—75	5	.....	5	.....	10
75—85	4	.....	4	.....	8
85 & up.	2	.....	1	.....	3
<hr/>			<hr/>		<hr/>
	58		43		101

The moribund visitors of 1897 were not quite so far advanced in disease as in 1896. The mean duration of their life, after arrival, was 80 days. The duration of their lives in four successive years has been :—

TABLE XV.

1894	70 days
1895	62 „
1896	52 „
1897	80 „

The average duration of survival after admission, of the eight patients who died at the Convalescent Hospital in 1897, was 12·5 days. This is an improvement upon the record of 1896, when 13 deaths occurred after an average stay of 10 days ; but due care is not exercised yet by practitioners sending patients from inland towns. It is highly discreditable to the persons sending such cases to a convalescent hospital that death should take place seven days after arrival of advanced cases of phthisis. It is bad for the patients because the institution is not adapted nor intended for such cases ; bad for the institution and its other inmates, who are subjected to the danger of tubercle bacilli being diffused throughout the building ; and bad for the sanitary reputation of Southport, whose death rate is wantonly augmented thereby.

Of the 101 moribund visitors, 32 were under 35 years of age, and 68 above that age. Eighteen died at the Infirmary, eight at the Convalescent Hospital, two at the Convalescent Home in Lord Street West, and one at the Hydropathic Hospital—making 29 in public institutions. The remaining 72 died in private apartments or friends' houses.

I now append Forms **A** and **B**, as required by the Local Government Board, and after these the Table giving the Statistical Mortality Record of the Borough for 27 years last past. This latter table is based upon deaths actually registered within the Borough, and except as regards the column “ Local Death Rate,” which has the same meaning as in the annual card, is without any corrections, so called :—

(A)

TABLE XVI.

TABLE OF DEATHS during the Year 1897, in the Southport Urban Sanitary District, classified according to DISEASES, AGES, and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics ; public institutions being shown as separate localities. <i>(Columns for Population and Births are in Table B.)</i> (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																							
	At all ages. (b)	Under 1 Year. (c)	1 and under 5 (d)	5 and under 15 (e)	15 and under 25 (f)	25 and under 65 (g)	65 and upwards. (h)		(i)	1 Smallpox.	2 Scarlatina.	3 Diphtheria.	4 Men-braneous Group.	5 Typhus.	FEVERS.					10 Cholera.	11 Erysipelas.	12 Measles.	13 Whooping Cough.	14 Diarrhoea and Dysentery.	15 Rheumatic Fever.	16 Phthisis.	17 Bronchitis, Pneumonia, & Pleurisy.	18 Heart Disease.	19 Influenza.	20 Injuries.	21 All other Diseases.	22 TOTAL.
															Enteric or Typhoid.	Con-tinued.	Relaps-ing.	Puer-peral.														
SOUTHPORT (TOWN)	752	182	66	21	30	251	202	Under 5		3	1	1			1							4	14	23		3	31	1		1	165	248
								5 upwds.		2	4				1									1	3	67	76	61	7	14	267	504
THE INFIRMARY	38	—	4	3	3	24	4	Under 5																			1			3	4	
								5 upwds.																		5	4	2		2	21	34
HYDROPATHIC HOSPITAL	1	—	—	—	—	1	—	Under 5																								
								5 upwds.																			1					1
CONVALESCENT HOSPITAL ...	8	—	—	—	4	4	—	Under 5																								
								5 upwds.																		4	1	2			1	8
CONVALESCENT HOME	3	—	—	—	1	2	—	Under 5																								
								5 upwds.																		2					1	3
CHILDREN'S SANATORIUM ..	—	—	—	—	—	—	—	Under 5																								
								5 upwds.																								
ORMSKIRK WORKHOUSE	23	1	—	—	1	16	5	Under 5																							1	1
								5 upwds.																		4	4	4			10	22
MOSS LANE HOSPITAL	3	—	1	1	—	1	—	Under 5		1																						1
								5 upwds.			1				1																	2
TOTAL	828	183	71	25	39	299	211	Under 5		4	1	1			1						4	14	23		3	3	32	1		1	169	254
								5 upwds.		2	5				2			1					1	3	82	86	69	7	16	300		574
The subjoined numbers have also to be taken into account in judging of the above records of mortality.																																
Deaths occurring outside the district among persons belonging thereto ..	26	1	1	1	1	17	5	Under 5		1																				1	2	
								5 upwds.			1				1											4	4	4			10	24
Deaths occurring within the district among persons not belonging there-to	101	6	4	2	10	58	21	Under 5													1					1				8	10	
								5 upwds.																		18	9	12	1	1	50	91



(B)

TABLE XVII.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the Year 1897, in the Southport Urban Sanitary District, classified according to DISEASES. AGES, and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.													
	Last Census.	Esti- mated to Middle of 1897.			1	2	3	4	5	6	7	8	9	10	11	*	*	1	2	3	4	5	6	7	8	9	10	11	12	13	
					Smallpox.	Scarlatina.	Diphtheria.	Membraneous Group.	FEVERS.					Typhus.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Smallpox.	Scarlatina.	Diphtheria.	Membraneous Group.	FEVERS.					Typhus.	Cholera.	Erysipelas.	Measles.
									Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.										Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.				
(a)	(b)	(c)	(d)	(e)	Smallpox.	Scarlatina.	Diphtheria.	Membraneous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Smallpox.	Scarlatina.	Diphtheria.	Membraneous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.		
SOUTHPORT (Town)	41,406	48,445	1003	Under 5		49	5	1		2						7	15		32												
				5 upwds.		123	21			27			5		16	20	2		94	8			6								
THE INFIRMARY.....				Under 5		6													6												
				5 upwds.		4				2									4												
AINSDALE (WEST LANCASHIRE RURAL SANITARY DISTRICT)				Under 5															1												
				5 upwds.																											
TOTALS.....	41,406	48,445	1003	Under 5		55	5	1		2						7	15		39												
				5 upwds.		127	21			29			5		16	20	2		98	8			6						1		

* NOTE.—Measles and Whooping Cough ascertained—not notifiable in this District.

TABLE XVIII.
Vital Statistics.—Borough of Southport. (Twenty-seven Years).

YEAR.	BIRTHS.		DEATHS.						DEATHS FROM																DEATHS OF PERSONS AGED						ANNUAL RATE PER THOUSAND LIVING.						POPULATION.
	Male.	Female.	Male.	Female.	Resident more than One Year.	Resident less than One Year.	Bad Lives Imported.	Seven Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Cholera and Choleraic Diarrhoea.	Diseases of the Respiratory Organs.	Phthisis.	Violence.	Imported Phthisis.	Imported Diseases of the Respiratory Organs.	Deaths in Public Institutions.	Deaths under One Year of Age to 1,000 Births.	0—1.	1—5.	5—15.	15—25.	25—60.	60 and upwards.	Births.	Deaths, Gross.	Deaths, Local.	Deaths, Zymotic.	Deaths, Native Phthisis.	Deaths, Diseases of Respiratory Organs, Gross.	Deaths, Diseases of Respiratory Organs, Local.	
1871	264	242	221	203	—	—	—	65	24	3	5	2	6	15	10	1	56	59	11	—	—	38	170	86	47	20	37	140	94	27·97	23·44	—	3·59	—	3·09	—	18,086
1872	282	271	223	220	343	100	73	40	6	1	2	1	8	11	11	—	59	72	8	21	7	27	170	94	56	23	25	152	93	29·34	23·50	19·63	2·12	2·70	3·13	2·76	18,846
1873	278	300	239	220	353	106	65	78	—	1	32	—	3	22	20	—	58	68	9	33	8	32	164	95	50	39	24	139	112	29·43	23·37	20·06	3·97	1·78	2·95	2·64	19,638
1874	331	291	257	248	387	118	85	81	—	15	27	—	3	22	14	—	64	66	15	34	11	28	178	111	67	32	21	181	93	30·39	24·67	20·52	3·95	1·56	3·13	2·59	20,463
1875	336	331	306	287	475	118	81	70	1	—	7	1	6	39	16	—	90	87	12	27	13	31	183	123	55	27	43	193	152	28·81	25·65	22·14	3·02	2·59	3·89	3·33	23,113
1876	439	424	326	305	485	146	102	85	27	1	—	5	1	33	18	—	93	83	14	34	23	44	153	132	44	28	51	215	161	33·19	24·27	20·34	3·27	1·88	3·57	2·69	25,997
1877	463	456	291	329	503	117	106	53	1	1	2	17	5	13	14	—	104	75	17	25	20	22	123	113	67	39	34	202	165	33·87	22·85	18·94	1·95	1·84	3·83	3·09	27,132
1878	481	444	332	314	518	128	111	70	—	4	14	7	—	14	31	—	94	87	16	32	14	20	151	140	70	29	37	200	170	32·66	22·81	18·89	2·47	1·94	3·32	2·82	28,317
1879	461	465	289	328	511	106	89	25	—	1	5	2	7	2	8	—	134	68	16	19	17	29	124	115	63	26	36	213	164	31·33	20·87	17·86	·84	1·65	4·53	3·95	29,554
1880	470	452	340	367	610	97	81	49	—	4	4	3	18	7	13	—	119	70	13	22	10	26	190	176	86	33	32	200	180	29·89	22·92	20·29	1·58	1·55	3·85	3·53	30,845
1881	457	460	290	278	462	106	90	44	—	5	11	6	5	10	7	1	94	73	13	28	12	24	100	92	76	27	30	173	170	28·48	17·64	14·84	1·36	1·39	2·92	2·55	32,191
1882	451	421	263	289	450	102	91	34	—	—	15	7	4	6	2	—	108	72	8	24	17	24	119	104	73	39	27	166	143	26·24	16·61	13·87	1·02	1·44	3·25	2·74	33,232
1883	438	411	323	335	558	100	93	51	—	8	7	4	18	6	8	—	144	72	10	17	7	29	134	114	85	30	38	195	196	24·97	19·35	16·61	1·50	1·61	4·23	4·03	34,077
1884	460	416	315	302	511	106	87	36	—	3	3	10	3	5	11	1	103	78	16	20	11	25	132	116	70	25	37	164	205	25·07	17·66	15·17	1·03	1·66	2·95	2·63	34,944
1885	453	419	317	317	517	117	93	37	—	4	3	8	12	5	5	—	108	65	20	19	15	28	141	123	71	24	27	193	196	24·34	17·72	15·10	1·03	1·28	3·01	2·60	35,833
1886	509	415	324	316	544	96	82	21	—	1	3	5	5	1	6	—	100	77	24	18	5	29	140	129	40	28	31	186	226	25·15	17·42	15·19	·57	1·61	2·72	2·59	36,745
1887	413	413	316	362	575	103	85	36	—	10	6	7	4	4	5	—	105	67	20	17	8	33	151	125	59	30	40	190	234	21·92	17·99	15·73	·96	1·33	2·79	2·57	37,681
1888	467	460	331	370	587	114	91	25	—	—	2	18	—	3	2	—	108	72	16	23	8	27	135	125	60	45	37	222	212	23·99	18·14	15·79	·65	1·27	2·80	2·59	38,640
1889	457	431	319	387	590	116	96	53	—	4	4	18	18	1	8	—	113	64	13	23	5	30	148	131	72	45	32	180	246	22·41	17·82	15·39	1·34	1·03	2·85	2·73	39,623
1890	428	431	319	386	584	121	95	41	—	4	13	14	5	2	3	—	127	65	14	19	7	41	122	105	63	41	28	225	243	21·14	17·35	15·01	1·01	1·13	3·13	2·95	40,631
1891	475	522	369	422	656	135	112	34	—	1	7	3	9	5	9	—	160	68	18	19	18	35	124	124	61	38	35	234	299	23·93	18·98	16·30	·82	1·18	3·84	3·41	41,666
1892	488	439	403	405	686	122	101	53	—	14	17	7	7	4	4	—	138	69	19	14	15	35	125	116	69	34	27	246	316	21·70	18·91	16·55	1·24	1·29	3·23	2·88	42,726
1893	494	499	366	372	617	121	102	49	—	3	7	6	3	14	14	2	122	71	22	17	11	43	146	145	68	24	40	231	230	22·67	16·84	14·51	1·12	1·23	2·78	2·53	43,813
1894	505	461	353	332	577	108	88	51	—	1	8	12	23	5	1	1	91	58	16	14	3	44	143	139	64	35	27	205	215	21·50	15·25	13·29	1·13	·98	1·98	1·96	44,928
1895	535	497	370	429	695	104	84	42	—	1	6	3	1	9	22	—	138	61	24	19	11	49	137	142	55	27	36	229	310	22·40	17·34	15·52	·91	·91	2·99	2·76	46,071
1896	515	491	330	353	572	111	89	45	—	6	13	5	8	2	10	1	95	54	17	10	9	47	129	134	60	22	31	195	241	21·93	14·46	12·57	·95	·93	2·01	1·82	47,243
1897	507	496	381	421	669	133	101	54	—	4	5	5	14	2	22	2	114	81	17	19	9	50	181	182	·	34	38	231	257	20·70	16·55	14·47	1·11	1·28	2·35	2·17	48,445

The deaths recorded in the preceding Tables as occurring in 1897 were distributed according to age and sex as follows:—

TABLE XIX.

No.		Group.		Male.		Female.		Persons.
1	.....	Under 5	.....	136	.....	116	.....	252
2	.....	5—10	.....	12	.....	4	.....	16
3	.....	10—15	.....	2	.....	6	.....	8
4	.....	15—20	.....	11	.....	8	.....	19
5	.....	20—25	.....	12	.....	7	.....	19
6	.....	25—35	.....	25	.....	27	.....	52
7	.....	35—45	.....	26	.....	37	.....	63
8	.....	45—55	.....	34	.....	36	.....	70
9	.....	55—65	.....	37	.....	61	.....	98
10	.....	65—75	.....	44	.....	62	.....	106
11	.....	75—85	.....	32	... ..	48	.....	80
12	.....	85 & up	.....	10	.....	9	.....	19
				381			421	802

There is a regrettable increase of the deaths under 5 years of age, the exact excess of which is best expressed by noting that the death-rate per 1,000 living in that age group which in 1896 was 42·73 per 1000, was in 1897 54·12 per 1,000. The English death-rate in that age group is however somewhat higher.

The resulting death-rates at each of the age groups are given in the next Table, side by side with the corresponding death-rates in the England and Wales for 10 years 1886-95. The comparison shows the difference between Southport and English Rates.

I have made the comparison this year on the wider basis of ten years ending 1895, that being the last year detailed statistics are published for. The comparison in former years with the death-rates of 1891 in England and Wales had the merit of being free from all uncertainty, the year being a census year. but it was a year of high mortality, and the present comparison therefore is fairer on that account. Rates in intercensal years are of course calculated upon *estimated* populations only, not enumerated. But the errors of estimation in the Registrar General's Reports are really in this connection so small as to be negligible quantities.

TABLE XX.

Age Group.	Southport. Male.		England. Male.	Southport. Female.		England. Female.	Southport. Person.		England. Person.
Under 5	58.72	...	62.0	49.57	...	53.03	54.12	...	54.66
5—10	5.02	...	4.66	1.76	...	4.67	3.43	...	4.59
10—15	.87	...	2.65	2.36	...	2.82	1.65	...	2.73
15—20	5.88	...	4.26	2.48	...	4.05	3.72	...	4.07
20—25	7.02	...	5.39	2.10	...	5.01	3.77	...	5.31
25—35	8.66	...	7.29	5.51	...	6.82	6.68	...	7.07
35—45	10.86	...	12.10	10.62	...	10.29	10.72	...	11.13
45—55	19.43	...	19.58	12.83	...	15.16	15.36	...	17.36
55—65	30.48	...	35.77	29.36	...	29.31	29.77	...	31.74
65—75	58.43	...	71.99	51.84	...	62.08	54.38	...	67.19
75—85	144.14	...	148.90	122.76	...	134.20	130.51	...	140.59
85 & up	526.32	...	301.18	176.47	...	270.83	271.43	...	281.86

Comparing Southport and English rates, group by group, it appears that in 1897 the advantage as regards rates is in favour of Southport in every group when comparing persons or females. In comparing Southport male rates however with English male rates the comparison is against Southport in groups 2, 4, 5, 6, and 12. The number of lives however in each age group comparing the Southport and English distribution is such as to result in a net gain to Southport from the local age and sex distribution; the effect however is not great. The following Table shows the yield of deaths as it would have been in Southport in 1897, with Southport death-rates at each age group and English age grouping, on an identical total of persons at all ages.

TABLE XXI.

No.	Group.		English Grouping.		Southport Death-rates.		Deaths resulting.
1	under 5	.....	5935	×	54.12	=	321.20220
2	5—10	.....	5660	×	3.43	=	19.41380
3	10—15	.....	5384	×	1.65	=	8.88360
4	15—20	.....	4928	×	3.72	=	18.33216
5	20—25	... ..	4421	×	3.77	=	16.66717
6	25—35	.....	7312	×	6.68	=	48.84416
7	35—45	.....	5561	×	10.72	=	59.61392
8	45—55	.....	4172	×	15.36	=	64.28192
9	55—65	.....	2768	×	29.77	=	82.40336
10	65—75	.....	1665	×	54.38	=	90.54270
11	75—85	.....	566	×	130.51	=	73.86866
12	85 & up.	.....	73	×	271.43	=	19.81439
			48,445				
							823.86804
			Actual Deaths.....				802.00000
			Gain by Southport age and sex distribution				21.86804

Reduction of death-rate by age and sex distribution .46 per 1000. Thus 823.86804 deaths would have given a death-rate of 17.01, but the actual deaths 802 give a death-rate of 16.55. Hence the correction on this score being .46, our corrected rate for the year is 17.01.

This is the place now to strike the final death-rate for 1897, resulting from various additions and deductions sanctioned by the Local Government Board, and modified by age and sex distribution.

The deaths registered within the Borough in 1897 were 802. To these must be added 3 deaths which occurred at the Borough Hospital for Infectious Diseases, in Moss Lane (outside the Borough), and 23 which occurred at the Ormskirk Workhouse, amongst persons admitted thereto from Southport. This raises the total deaths to 828. From these are to be deducted 101 deaths of persons dying within the district, but not belonging thereto, who arrived suffering from the diseased conditions of which they died. This reduces the deaths for which we are responsible to 727, and the resulting death-rate is 15.01. To these must be added the fictitious gain of .46 on the age and sex distribution, and the net result is a death-rate for 1897, of 15.47 which, as I take it is the true exponent of our sanitary condition,

The death-rate for England and Wales in 1897 was 17·4 per 1000. The Southport rate, being 15·47, was thus 1·93 below that of the country at large.

The amount of infectious disease in the Borough was much less in 1897 than in 1896—less than half. The notified “notifiable” cases were 261 in 1897, as against 542 in 1896, and the “ascertained,” but not notifiable, cases 67, as against 279 in 1896.

These cases were distributed over the Borough as follows:—

TABLE XXII.

NOTIFIABLE INFECTIOUS DISEASES.

	Hesketh W.		Scarisbrick.		East.		Talbot		Craven.		West.		Total
Scarlet Fever ...	7	...	13	...	7	...	63	...	61	...	31	...	182
Diphtheria	2	...	1	...	2	...	14	...	5	...	3	...	27
Typhoid Fever...	3	...	2	...	7	...	7	...	10	...	2	...	31
Erysipelas	4	...	1	...	1	...	5	...	1	...	4	...	16
Puerperal Fever	0	...	2	...	0	...	1	...	1	...	1	...	5
	<hr/>		<hr/>		<hr/>		<hr/>		<hr/>		<hr/>		<hr/>
	16	...	19	...	17	...	90	...	78	...	41	...	261

XXIII.

Infectious Cases ascertained, but not notifiable:—

	Hesketh.	Scarisbrick.	East.	Talbot.	Craven.	West.	Total
Measles	1	...	5	...	2	...	27
Whooping Cough	4	...	7	...	0	...	17
Diarrhœa	1	...	8	...	0	...	23
	<hr/>		<hr/>		<hr/>		<hr/>
	6	...	20	...	2	...	67

The total number of cases of Infectious Disease notified and otherwise ascertained in 1897, Ward by Ward, was:—

TABLE XXIV.

Hesketh Ward.....	22
Scarisbrick Ward	39
East Ward	19
Talbot Ward	104
Craven Ward	88
West Ward	56
Total.....	<hr/> 328

The number of cases per 1000 inhabitants in each Ward is as follows :—

TABLE XXV.

Hesketh Ward	8
Scarisbrick Ward	8
East Ward	3
Talbot Ward	7
Craven Ward	8
West Ward	6

And, comparing Rural and Urban Wards, the rates are :—

Rural	8 per 1000
Urban	6 „

The disadvantage still attaches to the Rural, as compared with the Urban Wards, but not in anything like the same ratio as in former years. I attribute this to a growing appreciation of the value of isolation, and the consequent greater promptitude with which it is now effected.

The general death-rate in the Rural Wards, however, as compared with the Urban general death-rate, not only does not show any diminution, but a great augmentation. That the two Rural Wards, taken together, should have a death-rate of 8·71 per 1000 above that of the Urban Wards is most discouraging. That Scarisbrick Ward should have a death-rate of 25·07, and East Ward of only 10·86—a difference of 14·21—is appalling. I am not sure that the fact of this difference is not rendered even more serious and significant by the circumstance that this is a difference not the result of a sudden outbreak of fatal zymotic disease in a population largely consisting of young children; for the zymotic deaths in Scarisbrick Ward is only a small fraction of this great discrepancy. The Scarisbrick Ward zymotic rate in 1897 was 1·68 per 1000, and the East Ward zymotic rate ·44—a preponderance of 1·24 per 1000. Deduct this 1·24 per 1000 from the 14·21 per 1000, there still remains a preponderant death-rate of 12·97 per 1000 in Scarisbrick Ward over East Ward—that is to say that, apart from zymotic diseases, the general death-rate of Scarisbrick Ward is more than double that of East Ward.

The difference cannot, therefore, be attributed to any transient cause, such as a wave of zymotic disease. It is due, in my opinion, to permanent causes operating continuously upon the whole population of the Ward, and reducing the vitality of the people. Continuous general causes are of two sorts—“habits of the people,” only capable

of gradual improvement as pertaining to their moral and intellectual growth, and “physical environment,” which is susceptible of larger and much more rapid modification by the exercise of municipal powers.

Pure water and pure air, with uncontaminated food, are certainly within the range of municipal control. The first we have in abundance in the vast majority of houses, and, fortunately, derived from sources as little liable to contamination as any within my knowledge. Uncontaminated food resolves itself mainly into milk not drawn from tuberculous cows. Pure air involves absence of overcrowding, cleansing, and ventilation of dwellings, quick removal of animal and vegetable refuse, and especially of excreta, both human and animal, good public sewers, and good house-drains.

It may be admitted at once that the habits of the people, mostly arising from deficient knowledge, and still more deficient self-control, are responsible for the major part of the ills which flesh is heir to. But even the habits of people are linked to their environment more or less. It is difficult to be moral in a room occupied night and day by a whole family. In like manner daily overfamiliarity with filth blunts that perception of seemliness, which is first cousin to morality.

But whatever share habits may have in deteriorating the health of a population, there is a certain share due to physical environment also. It is impossible to assess the relative influence of these two factors, but it is enough to know that they are both operative. So far as this physical environment is under municipal control, it is the duty of municipalities to see that the community takes no harm thereby, whether this duty is adequately performed, so long as a system of filth storage is permitted to remain in operation is questionable. I hardly think anyone now-a-days would seriously put forward as a sound proposition of sanitation or of municipal duty, that the conservation of human excreta in the immediate vicinity of dwellings is a mode of atmospheric purification, or of improving the physical environment of the people.

The converse proposition that the good health of a community varies inversely as the volume of excrementitious filth present in it varies, only needs stating to be admitted, *i.e.*—to say by anyone who knows anything about the matter at all. It is not necessary to argue the question further. Previous reports have given the statistical proof so fully that there really remains nothing more to be said. What is needed is not an otiose assent to a doctrine, but an effectual belief, that is a conviction which shall be efficacious in bringing about results.

The Zymotic death-rate in Southport in 1897 was 1·0941 per 1000. In England and Wales it was 2·15.

The death-rates of the principal Zymotic Diseases in Southport and in England and Wales respectively in 1897, were as follows :—

TABLE XXVI.

	Southport.		England and Wales.
Measles	·0826	.....	·40
Scarlet Fever	·1032	.....	·14
Diphtheria	·1032	.....	·24
Whooping Cough	·2890	.....	·35
Fever	·0413	.....	·16
Diarrhœa	·4748	.....	·86
	<hr/> 1·0941		<hr/> 2·15

These rates are fairly satisfactory, being about half the Zymotic rates of the country at large. As compared with 1896 our Scarlet Fever rate is less than one-third of the rate for 1897, but the Diarrhœa rate is more than doubled.

The Notifications of Scarlet Fever came in, month by month, as follows :—

TABLE XXVII.

	1897.		1896.
January	39	.....	36
February	13	.....	10
March.....	18	.....	10
April	15	.....	10
May	20	.....	7
June	12	.....	21
July	8	.....	70
August	10	.....	64
September	9	.....	69
October	13	.....	85
November	5	.....	55
December	20	.....	38
Total	<hr/> 182	Total.....	<hr/> 475

The improvement in 1897—is great.

A somewhat similar diminution is observable as regards cases of Measles, which by the way are not notified, but are “ascertained.” I do not think there is any material disposition to conceal measles. The circumstance to be deprecated is the small importance attached to this fatal disease, which carries off year by year more than twice as many children as Scarlet Fever.

TABLE XXVIII.

Cases of Measles coming to our knowledge month by month, in 1897 and 1896 :—

	1897.		1896.
January	0	.....	6
February	1	.....	26
March.....	5	.....	83
April	6	.....	10
May	0	.....	65
June	1	.....	0
July	3	.....	2
August	2	.....	0
September.....	0	.....	0
October	6	.....	59
November	0	.....	2
December	3	.....	2
Total.....	27	Total.....	255

There were more cases of Typhoid Fever notified in 1897 than in 1896, viz.—31 in 1897, as against 18 in 1896. They were notified as follows :—

TABLE XXIX.

January	3
February	1
March	4
April.....	0
May	2
June	1
July	3
August	4
September	3
October.....	3
November	2
December.....	5
	<hr/>
	31

It cannot, however, be said that this disease was prevalent at any time during the year. The average duration of a case of Typhoid Fever being under six weeks, there must never have been on an average more than three cases current in the Borough at once. This is a small proportion amongst nearly 49,000 persons.

Diarrhœa caused in all 24 deaths. These occurred from month to month, as follows:—

TABLE XXX.

January	0
February	0
March	1
April	0
May	0
June	0
July	0
August	15
September	4
October	4
November	0
December	0
	—
Total	24

The fatality in August is in accord with the usual experience, viz.—that Diarrhœa becomes prevalent when the subsoil temperature reaches its maximum. The precise point will probably vary in different soils, and the resulting deaths will vary according to the degree of subsoil contamination with decomposing or putrescible organic matter.

The unusual infantile mortality of 1897 requires some comment and analysis. Reference to Table XVIII. will show that there has been no such heavy a mortality since the year 1880, when it stood at the rate of 190 deaths under one year of age to 1000 births. In 1897 it was 182 to 1000 births. The following were the causes of death in these cases:—

TABLE XXXI.

Debility at Birth.....	52
Spina Bifida.....	2
Marasmus	8
Convulsions.....	16
Dentition	12
Respiratory Diseases	25
Diarrhœa.....	17
Tuberculosis	19
Gastritis, Entiritis, and Gastro-Entiritis	15
Bad Feeding.....	1
Whooping Cough	9
Measles	2
Eczema	1
Pemphigus	1
Hœmatemesis	1
Follicular Tonsillitis	1
<hr/>	
Total...	182

One-half of these diseases (the five first causes) were essentially developmental, and do not give an encouraging idea of the vitality of the children born in this district. Wages are good, in comparison with other places, and the general aspect of the people is certainly not that of diminutive stature or deficient robustness. Habits, I incline to think, are very responsible in this case, as well as with regard to the 33 deaths from diarrhœa and gastro-enteric diseases, one of which the practitioner in attendance has had the courage to certify as “bad feeding.”

The enormous preponderance of infant mortality in the Rural Wards over that in the Urban Wards is significant. In the Rural Wards the rate is 227·27 deaths per 1000 births; in the Urban Wards it is 161·15 per 1000 births; and, of the whole infant mortality, nine-tenths occurs amongst the weekly wages class, who are certainly not in that proportion to the rest of the population in this Borough.

If any additional inducement to get rid of excretal nuisances is wanted, these facts supply it.

The undue incidence of Infant Mortality upon the children of persons belonging to the weekly wages class is still more forcibly demonstrated by the fact that the proportion of deaths under 1 year of age to 1000 births amongst the weekly wages class in Southport in 1897 was 254·3, while the proportion amongst persons not of the weekly wages class was 50·3. In other words the mortality of children of the weekly wages class in proportion to the number born in that class was 5 times that which obtained in the classes above them.

I have never been able to see why these frightful discrepancies in class mortality should be beyond the reach of philanthropic effort. It is not eleemosynary help that is needed but some of the every-day practical wisdom which the upper classes have, and the working classes have not, as regards human stock-raising. Surely the gulf between class and class is not so wide nor so deep that the one class cannot be taught the lesson the other has learned.

Let me put the case in one other aspect.

If the Infant mortality of the weekly wages class in 1897 had been no more than that of the classes above them the death-rate would have been 2·5 per 1000 less. It may seem a cynical way of regarding the question, but it really looks as if it would pay in enhanced sanitary reputation to obliterate this wholly unnecessary difference in class mortality.

The admissions to Hospital for Infectious Diseases in 1897 were as follows :—

TABLE XXXII.

Typhoid Fever.....	6
Diphtheria:	8
Scarlet Fever	137
Measles	1
	—
Total.....	152

The total admissions since the Hospital was opened up to December 31st, 1897, have been ;—

TABLE XXXIII.

Small Pox	24
Typhoid Fever.....	69
Scarlet Fever	795
Diphtheria	25
Measles.....	12
Chicken Pox	1
Continued Fever.....	1
Rotheln.....	1
In Error	3
Total.....	<hr/> 931

The case mortality amongst the 152 cases treated at the Hospital in 1897, was 2%.

The case mortality amongst the 115 cases of the same diseases treated outside, was 16·52 %.

The work of the Inspectors of Nuisances and the Meat Inspector, in 1897, was as follows :—

TABLE XXXIV.

Nuisance Inspections not reported to the Health Committee.....	9833
Nuisances reported to Health Committee	1591
Enquiries into Zymotic Diseases (notifiable)	261
Do. do. (not notifiable)	65
Houses, or parts of Houses disinfected	252
Day visits to Common Lodging-houses	79
Night visits do. do.	8
Inspections of Workshops not reported to Health Committee.....	425
Do. do. reported to Health Committee.....	72
Inspections under Shop-hours' Act	151
Visits to Cow-sheds and Milk-shops ...	428
Cow-sheds reported to Health Committee	88
Visits to Butchers' Shops	1838
Do. Market Hall	276
Notices served	813
Visits to Public Slaughter-houses	258
Do. Private do.	129
Do. Shrimp Potting-houses	49
Do. Railway Cattle Trucks	32
Do. Ice Cream Vendors	10
Cases removed to Hospital	152
Making a total of.....	<hr/> 16,810 visits,

The various inspections made, and notices served during 1897, resulted in orders being obtained for the execution of work to the number of 1086, as against 907 in 1896. These orders resulted, together with the work done under our powers, in 1667 separate jobs, as against 1271 in 1896, viz. :—

TABLE XXXV.

Houses re-drained	136
House-drains unstopped	687
Midden-privies converted into waste water-closets	159
Wet ashpits converted into dry do.....	139
Sundry structural nuisances abated.....	546
<hr/>	
Total.....	1667

The total number of midden-privies abolished in ten years ending December 31st, 1897, has been 1518.

Fifty-two samples were taken under the sale of Food and Drugs Act, during 1897, as follows, viz. :—

TABLE XXXVI.

Arrowroot	1
Bread	1
Butter	11
Cocoa	1
Coffee	1
Gin	3
Iodide of Potassium	1
Lard	3
Milk	24
Pepper	1
Sugar	1
Tea	1
Tincture of Opium	1
Vinegar	1
Whiskey	1

In one case of milk adulteration, a fine of 10/- and costs was inflicted.

One barrel of prawns, one barrel of mussels, and seventeen consignments of fish were destroyed; but no prosecutions were undertaken, as the consignees were innocent holders of the same.

Four persons were prosecuted for various offences under the Contagious Diseases of Animals Act, involving breaches of bye-laws as to cow-sheds, and were fined—one £6 and costs, and three 20/- and costs each.

Ten other persons were summoned for similar offences, but the summonses were withdrawn upon payment of costs and compliance with the Bye-laws.

One person was summoned under the Shop Hours Act; the case was dismissed.

It is satisfactory to be able to record that the validity of our Bye-laws as to air-space in cow-sheds, was established on an appeal to the High Court of Justice against a conviction by the Southport Bench.

With the few exceptions stated, the work of the Health Department has been carried on without any friction or opposition which has not been amenable to explanation, expostulation, or persuasion.

Refuse removal has made some slight advance during 1897 upon 1896. The total increase is, of course, considerable, but the amount removed per head of population in 1897 is only 8 cwt. 3 qrs., as against 8 cwt. 2 qrs. in 1896.

The totals come out for 1897 as follows:—

Dry Refuse Removed	19,315 tons
Wet do. do.	1,994 ,,
Total.....	21,309 ,,

The total number of ashpits emptied in 1897 was:—

Midden or Wet	2,097
Dry	92,434
Total.....	94,531

The weight of a dry load averaged 25 cwt., and of a wet load 30 cwt. and 1 qr. nearly. This is practically the same as 1896.

I hope to be able to record a much accelerated rate of removal for 1898, as a re-arrangement of the work has already effected a considerable improvement, which, if maintained, should run the figures up very considerably.

I am, Gentlemen,

Yours obediently,

HENRY H. VERNON, M.D. & F.R.S., EDIN.

